

Pathfinders - Light Up the World

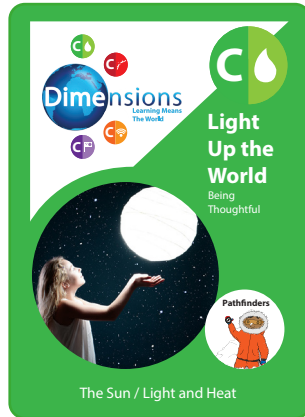
What

I

Should

Know

Dimensions
CURRICULUM



Overview

"Light Up the World" is a thematic unit based around the sun and other sources of light, with a science focus. We will look at solar power and how to save electricity, as well as learning about sun safety and the importance of protecting both the skin and eyes. We will learn about how shadows are formed when solid objects block light. Nocturnal animals will also be introduced in the unit.

What?

What is darkness?

- Dark is the absence of light. We need light to see.

What is a light source?

- A light source is something that gives off light. There are natural light sources like the sun and artificial light, like candles.



Sustainable Energy

How do solar panels work?

- The solar panels that are fitted on to the roof of a house get their energy from the sun's light. The sun shines on the solar panels and the panels absorb the energy, creating direct current electricity that can provide power to the electrical items in the house.

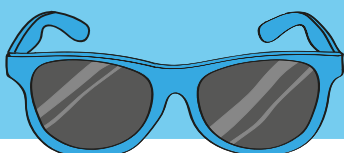
Why is solar energy important?

- Solar energy is a safer, cleaner way of producing electricity and a source of energy we will not run out of, unlike fossil fuels (e.g. gas).

Why?

Why must we never look directly at the sun?

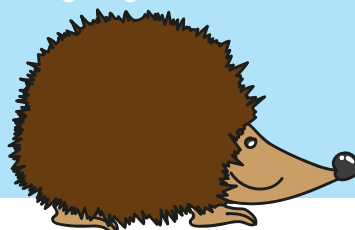
- The sun is so bright that, if you look at it directly, it will damage your eyes. You should always wear a hat or sunglasses on sunny days to protect your eyes.



When?

When do nocturnal animals come out?

- The animals that only come out at night are called nocturnal animals. For example, owls, bats, badgers, hedgehogs are all nocturnal.



How?

How can we save electricity?

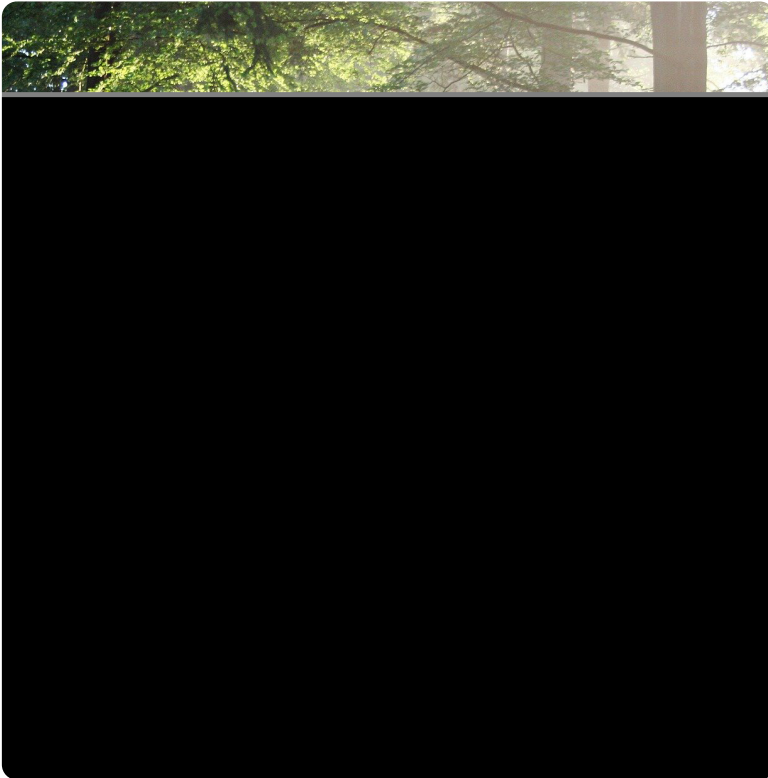
- It is important to save electricity and there are some ways we can help do this. For example:-
- Turn off the lights when you leave a room
- Use rechargeable batteries
- Turn off the tap when brushing your teeth
- Unplug electric items that aren't being used

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How to...

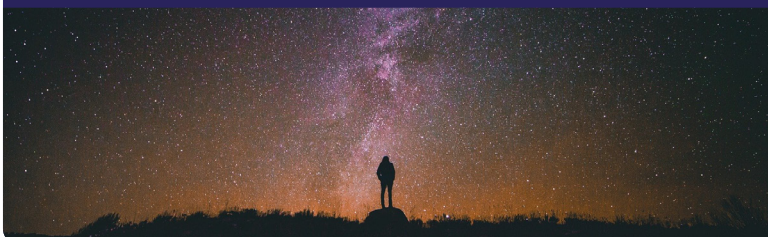
...make hand shadow puppets

- Put one hand between a lamp and the wall so that you can clearly see the shadow of your hand. You can change the shape of your hands to create different animal, birds and other shapes.
<http://www.kellys.com/ashley/shadow.html>



Concept Flow

- To recognise that we need light in order to see things and that dark is the absence of light
- To know, name and observe a variety of sources of light, including electric lights, flames and the sun
- To recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- To understand that the sun provides energy and that solar power is a sustainable energy source
- To be aware of simple ways to save electricity
- To know that shadows are formed when the light from a light source is blocked by a solid object
- To understand the term 'nocturnal' and learn about nocturnal animals



Vocabulary

Appliance: an object you use for a special purpose

Artificial: made by humans, not naturally created

Damage: to spoil

Darkness: where there is no light

Electricity: a type of energy

Energy: the power or ability to make something work or be active

Light source: something that gives off light

Nocturnal: awake / active at night

Protect: to keep safe

Shade: darkness caused by light rays being blocked

Shadow: a dark image cast on a surface where light is blocked by something solid

Silhouette: any dark figure seen against a light background, so that the details are hard to see

Solar: of, having to do with, or coming from the sun

Sustainable: to keep (something) going or existing